

## CURRICULUM VITÆ

2003/04/24

ADDISON, Anthony William.

Chemistry Department, Drexel University, Philadelphia, PA 19104-2875, U.S.A.  
Voice: 1-215-895-2646; E-mail: AddisonA@drexel.edu; Fax: 1-215-895-1265  
Web: <http://www.chemistry.drexel.edu>

**Personal Data:**

Australian, born June 24, 1946, Stanmore N.S.W., U. S. Resident.  
Military service: indefinitely deferred by ballot, 1967.  
Married; Barbara E. Kocjan (1972). Two Children; Nicholas P. (1978), Alexander T. (1982)

**Education:**

B.Sc. (Hons-I, Applied Chemistry), University of New South Wales. Awarded 1968.  
Ph.D. (Chemistry), University of Kent at Canterbury. Awarded 1971.

**Professional History:**

M.R.C. Research Assistant, University of Kent at Canterbury, 1968-70.  
Postdoctoral Fellow (NIH-funded), Northwestern University, 1970-72.  
Assistant Professor of Chemistry, University of British Columbia, 1972-78.  
Associate Professor of Chemistry, Drexel University, 1978-91.  
(Assistant Head of Department, 1985-87, Associate Head of Department, 1987-99; Head of Department, 2000-2003.)  
Faculty Associate of the Drexel University School of Biomedical Engineering and Science, 1990-  
Professor of Chemistry, Drexel University, 1991-  
Adjunct Associate Professor, UMDNJ-Robert Wood Johnson Memorial Hospital at Camden, 1991-

**Honours and Awards:**

Australian Commonwealth Scholar, 1964-67.  
Elected Honorary Member of Phi Eta Sigma, 1982.  
The *John van Geuns* Fonds Lecturer, Universiteit van Amsterdam, The Netherlands, April 1985.  
Christian & Mary Lindback Award for Distinguished Teaching, 1987.  
1989 Chairman, American Chemical Society Philadelphia Section  
*Le Conférencier*: la Convention Intercantonale Romande d'Enseignement du 3<sup>e</sup> Cycle en Chimie, (Geneva, Lausanne & Neuchâtel) Switzerland, October 1990.  
American Chemical Society Philadelphia Section: Ullyot Award for Meritorious Service - presented at the Section Centennial Gala, April 1999.

**Professional Affiliations:**

- The Royal Society of Chemistry, 1968 to present.  
(Member, Dalton Division, and Inorganic Biochemistry, Electron Spin Resonance, Macrocycles and Inorganic Reaction Mechanisms Subject Groups.)
- The Chemical Institute of Canada, 1974 to present, & The Canadian Society for Chemistry (Vancouver Section CIC Executive member, 1974-78; *Catalyzer* Editor, 1976-77; Chairman, Vancouver Section, 1978.)
- American Chemical Society, 1972 to present. (Member of Biological Chemistry Division, 1980-87; Inorganic Chemistry Division, 1972-; Chairman of Philadelphia Section Publications Committee, 1981-87; Member, Philadelphia Section Board of Directors, 1987-88; Chairman-Elect of the Philadelphia Section, 1988; Philadelphia Section Chairman, 1989; Immediate Past Chairman and ex-officio Member, Board of Directors, 1990; Chairman, Section Nominations Committee, 1990; Member, Section Nominations Committee, 1991; Chairman, *ad hoc* Committee on Awards for Excellence in Pre-College Teaching, 1991); Section Alternate Councillor, 1994-; Member of Philadelphia Section Publications Committee, 1981-; Philadelphia Section Councillor, 2003-

- The International EPR (ESR) Society, 2002-

### Research Interests:

Bioinorganic chemistry: chemistry of dioxygen- and NO-binding metalloproteins, particularly hemerythrins, myoglobins and invertebrates' hemoglobins. Design, synthesis and properties of novel chelating agents and of macrocyclic and binuclear inorganic complexes as models for various properties of iron, copper, nickel and vanadium centres in O<sub>2</sub>-transporting and redox proteins. Electrochemistry, CD, EPR and magnetic properties of extended and molecular inorganic systems.

### Community Service:

Member, the Association for the Rights of Citizens (ARC).  
 Delaware County (DELARC) site inspector, Community Living Arrangements (1986-8).  
 Judge, Delaware Valley Science Fair (1986).  
 Member, Autism Society of America (Delaware County Co-convener, 1987-88.)  
 Co-coach, Wallingford-Swarthmore School District "Odyssey of the Mind", Summer/Fall 1992.

### Other Professional Activities:

- Co-founder and co-supervisor of the Bioinorganic Chemistry Research Group at The University of British Columbia, 1974-1978.
- Co-organizer, International Symposium, Biological Aspects of Inorganic Chemistry, University of British Columbia, June 1976 ("the Zeroeth ICBIC").
- Chairman, Inorganic Chemistry session, ACS Northwest Regional Meeting, Portland, Oregon, 1977.
- Discussion Leader, International Minisymposium on Copper Chemistry, Detroit, MI, June 1979.
- Chairman, "Iron Biochemistry" Session, ACS Division of Inorganic Chemistry, 2nd Chemical Congress of the North American Continent, Las Vegas, Fall 1980.
- Chairman "Copper/Iron Bioinorganic Chemistry" Session, ACS Division of Inorganic Chemistry, 186th. National Meeting, Washington, DC, Fall 1983.
- NATO Research Project Director (Philadelphia & Leiden), 1983-86.
- Chairman, "General and Biological Inorganic Chemistry" Session, ACS Division of Inorganic Chemistry, 188th. National Meeting, Philadelphia PA, Fall 1984.
- Referee for research proposals submitted to: U.S. National Science Foundation, Petroleum Research Fund, ACS, North Atlantic Treaty Organization, Cottrell Foundation, U.S. National Institutes of Health
- Referee for research papers submitted to: *ACS Journal of the American Chemical Society*, *ACS Inorganic Chemistry*, *ACS I & EC Research and Development*, *Canadian Journal of Chemistry*, *Journal of Coordination Chemistry*, *Journal of Inorganic Biochemistry*, *Nouveau Journal de Chimie*, *Inorganica Chimica Acta*, *The European Journal of Biochemistry*, *Coordination Chemistry Reviews*, *Journal of the Chemical Society - Dalton Transactions*, *Journal of the Chemical Society - Chemical Communications*; *The European Journal of Inorganic Chemistry*.
- Reviewer for U.S. National Research Council Committee on Human Resources (1981).
- Attendee at workshop: "Microcomputer Interfacing", (VPISU faculty-run) Greensboro, NC, Fall 1985.
- Judge, U.S. Army Junior Science & Humanities Symposium, Philadelphia, PA, March 1987.
- *Ad hoc* member, U.S. National Institutes of Health Metallobiochemistry Study Committee, Washington, DC, October 1987.
- Judge, U.S. Army Junior Science & Humanities Symposium, Philadelphia, PA, April 1988.
- Chairman: "Transition Metal Biochemistry of Mn & Fe" Session, for American Chemical Society Division of Inorganic Chemistry, Third North American (ACS/CIC/SQM) Chemical Congress, Toronto, Canada, June 1988.
- Chairman: "General - Transition Metal - Biochemistry" Session, for American Chemical Society Division of Inorganic Chemistry, Third North American (ACS/CIC/SQM) Chemical Congress, Toronto, Canada, June 1988.
- Member, U.S. National Institutes of Health Metallobiochemistry Study Committee, Washington, DC, October 1988.
- Judge, U.S. Army Junior Science & Humanities Symposium, Philadelphia, PA, March 20-21, 1989.
- Program Chairman (Inorganic Chemistry) 23rd. American Chemical Society Mid-Atlantic Regional Meeting, Cherry Hill NJ, May 1989.
- External Examiner: Inorganic Chemistry, Swarthmore College Honors program, May 1990.

- Chairman: "Bioinorganic" Session, for American Chemical Society Division of Inorganic Chemistry, 200th. National Meeting, Washington, DC, August 1990.
- External Examiner in Inorganic Chemistry & undergraduate research thesis & Chairman of the Conference of External Examiners in Science & Engineering, Swarthmore College Honors program, May 1991.
- External Examiner: Inorganic Chemistry & undergraduate research thesis, Swarthmore College Honors program, May 1994.
- Programme Chairman, American Chemical Society 30th. Mid-Atlantic Regional Meeting, 1995-96.

#### **Biographical Listings:**

1. "American Men and Women of Science", 1992.
2. "Who's Who in Frontier Science and Technology"
3. "The Directory of Distinguished Americans" (3rd. Edn.)
4. Marquis "Who's Who in North America." (23rd. Ed'n., 1990).
5. "Who's Who in The East."
6. Marquis "Who's Who of Emerging Leaders in America", 1987.
7. "Dictionary of International Biography" Vol. XX, 1987.
8. "Who's Who in American Education" (1992-93 Ed'n.).
9. "Who's Who in Technology", Gale Research, 1994.
10. Strathmore's "Whos Who", Strathmore Directories, 1998/99.
11. The Oxford/Cambridge (U.K.) Directory of Distinguished Scientists, 2001.

#### **Administrative Duties & Service:**

- Assistant Department Head, Summer 1983, Spring '84-Summer '86.
- Associate Department Head, Fall 1986-Fall 1999.
- Department Head, Winter 2000-.
- Chemistry Majors undergraduate advisor (1978-present)
- Undergraduate curriculum committee (1978-85)
- Graduate recruitment and admissions committee (1978-85)
- Chairman, Graduate recruitment and admissions committee (1986-91)
- Polymer Chemistry faculty search committee (1981)
- Department liaison with Library (1979-present)
- Various student research proposal oral examining committees (1978-present)
- Various Ph.D. oral examining committees. (1972-present)
- Chairman, departmental teaching evaluation committee (1981)
- University Distinguished Lecturer Committee (1980-82)
- Chairman, University Distinguished Lecturer Committee (1981)
- Analytical Chemistry faculty search committee (1983-4)
- University Database Selection Subcommittee, (1984-85)
- Chemistry Department Head Evaluation Committee (1984-85)
- Departmental Long-Range Planning Committee (1984)
- Chemistry Department Head Search Committee (1985-6)
- Bioscience/Biotechnology Department Faculty Search Committee (1985-88)
- Graduate recruitment and admissions committee (1985-90)
- Polymer Chemistry faculty search committee (1986-7)
- Search committee, Dean of the College of Science (1987-8)
- C. & M. Lindback Distinguished Teaching Awards Committee, 1988.
- Committee for the Drexel University Forum on Science, Technology & the Humanities, 1988-89.
- Chairman, C. & M. Lindback Distinguished Teaching Awards Committee, 1989.
- University Senate Academic Support Committee (SCAS), 1990-
- Drexel University International Advisory Council, 1990-
- Chairman, University Library Advisory Committee (LAC), 1990-92
- Chairman, C. & M. Lindback Distinguished Teaching Awards Committee, 1990.
- University Commencement Marshal, 1991-92-93-94-95.
- University Classified/Professional Employee Grievance Committee, 1992.
- University Planning Committee on Institutional Advancement, 1992.
- Departmental Head Quinquennial Evaluation Committee, 1992.

Chairman, Departmental Graduate Curriculum Committee, 1992-93-94-95  
 Engineering Core Curriculum Committee, 1993.  
 Biomedical Engineering Undergraduate Degree Program Committee, 1993-94  
 The Academic Council, College of Arts & Sciences, 1994.  
 Graduate Curriculum Committee, College of Arts & Sciences, 1994.  
 Chemistry Evening College program scheduling, advising & liaison, 1993-  
 Departmental graduate recruitment and admissions committee (1990-95)  
 Undergraduate Curriculum Committee, College of Arts & Sciences, 1995.  
 Chairman, Honors Program Director Selection Committee, 1995.  
 Ph.D. Candidacy Exam committee: R. Mirchev, June 1995.  
 Calhoun Fellowships Committee: 1994-  
 Chair, Ph.D. Candidacy Exam committee: He Xu, Nov. 1995.  
 Chair, Ph.D. Candidacy Exam committee: R. Hensel, Dec. 1995.  
 Ph.D. Candidacy Exam committee: E. Connors, Dec. 1995.  
 Ph.D. Oral examining committee: R. Yeh, May 1996.  
 Chair, Departmental Graduate Affairs Committee, 1996-  
 Ph.D. Oral examining committee: E. Connors, May 1996.  
 Ph.D. Oral examining committee: R. Hensel, May 1997.  
 Biomedical Engineering Undergraduate Degree Program Committee, 1996-97.  
 Member, tDEC council, Winter/Spring 1997.  
 Co-Chair, Dean of Libraries search committee, 1996-97-98.  
 Chairman, G. Mitchell Candidacy Exam Committee, Spring 1998.  
 Member, University Library Advisory Committee, 1998-  
 Member, CoAS Dean's advisory committee on tenure & promotion, 1997-9.  
 Member, CoAS Academic Council, 1998-  
 Member, J. Ciralo Ph.D. Candidacy Exam Committee, Spring 1999.  
 Member, J. Crawford Ph.D. Candidacy Exam Committee, Spring 1999.  
 Chair, N. Xu Ph.D. oral examining committee, Sept. 1999.  
 Chairman, Departmental operating committee, Jan. 2000-  
 Member, R. Rojas Ph.D. Candidacy Exam Committee, July 2000.  
 Chair, S. Cheng Ph.D. Candidacy Exam Committee, May 2001.  
 Member, M. Zhou Ph.D. Candidacy Exam Committee, Sept. 2001.  
 Member, C. Chavez-Eng Ph.D. Thesis Exam Committee, March 2002.  
 External Examiner, N. Velusamy (PhD, Bharathidasan U.) March 2002.  
 Member, N. Carroll Ph.D. Candidacy Exam Committee, June. 2002.  
 Member, E. Marshall M.S. Thesis Committee, Aug. 2002.  
 Chairman, S. Cheng Ph.D. Thesis Exam Committee, Sept. 2002.

#### Media Interactions:

- August 1984: WCAU-NBC Channel-3, WCAU-Radio, KYW-NewsRadio interviews (re Explosive Substance in Disqué Hall).
- April 6, 1989: ABC channel-6 news interview (re Fishtown Chemical Site).
- "Lab Safety" *Canadian Chemical News/L'Actualité chimique canadienne* 1989 41(6), 4 (Letter to the Editor).
- "Ranking = Poor Science" *Canadian Chemical News/L'Actualité chimique canadienne* 1995 47(9), 4 (Letter to the Editor re inappropriate statistics).
- "Is ATP an energy source ?" *Chemistry in Britain* 1996 32(9), 23 (Letter to the Editor re. muscle thermo.).
- "Accuracy Matters" *Chemical & Engineering News* 1996 74(42) [Oct.14] 6 (Letter to the Editor re. refereeing).
- "Book and Beer ?" *The Swarthmorean* 1999 [] Letter to the Editor regarding liquor licensing).
- "It's Not the Rainfall" *Philadelphia Inquirer* 1999 [Aug. 11] (Letter to the Editor re. water resources).
- "Dignified ?" *The Swarthmorean*, 2000 [Dec. 1] (Letter to the Editor re. Presidential candidacies).
- With M.J. Prushan: Capillary action in water/alcohol mixtures: *Cuizine* Aug/Sept. 2001, 8 (Letter to the Editor ).

#### Other Professional Skills:

Fair reading and speaking knowledge of German and French.

Able to translate Chemical research articles in German, French, Italian and frequently even Rumanian.

Computer languages: Forgotten all FORTRAN, never learned Pascal, but adept with a mouse.

### Recent Teaching Duties:

#### Undergraduate:

CHEM.256 Physical Chemistry for the Biological Sciences.

Development and supervision of CHEM.256, CHEM.102 and CHEM.103 lab sequences.

CHEM.420 Molecular Symmetry and Group Theory in Chemistry.

CHEM.421 Inorganic Chemistry I

CHEM.424 Inorganic Chemistry Laboratory Discussion Group

#### Graduate:

CHEM.772 Inorganic Biochemistry.

CHEM.774 Electrochemistry for Real Chemists.

CHEM.521 Inorganic Chemistry I

CHEM.522 Inorganic Chemistry II

CHEM.523 Inorganic Chemistry III

CHEM.762 Special Topics in Inorganic Chemistry: Paramagnetism & Paramagnetic Resonance.

### New Courses Developed:

CHEM.256 Physical Chemistry for the Biological Sciences.

CHEM.420 Molecular Symmetry and Group Theory in Chemistry (with J.G. Kay)

CHEM.772 Inorganic Biochemistry.

CHEM.774 Electrochemistry for Real Chemists.

CHEM.762 Special Topics in Inorganic Chemistry: Paramagnetism & Paramagnetic Resonance.

### Students and Research Workers Supervised.

#### (a) Non-Chemistry degree students.

P. Welch (NIH pre-college research trainee; 1986, 1987)

Z. Zhuang (NIH pre-college research trainee; 1990): structural correlations for 5-coordinate Cu(II).

Peter Lindenberg (B.E. student, 1991): kinetics of glucosamine/FDNB.

Tien Huy (NIH pre-college research trainee; 1993): chemistry of invertebrate hemoglobins.

Wendy Hiu (NIH pre-college research trainee; 1993): chemistry of invertebrate hemoglobins.

William Gaskill (B.E. student, 1994): adduction of invertebrate hemoglobins.

Ms. T. Dunbar (NIH pre-college research trainee; 1993): chemistry of invertebrate hemoglobins.

M. Davis (B.S. student, 1997): heme exchange processes.

L. Bramble (B.S. student, 1997): heme exchange spectra.

W. Wasylaschuk (B.A. student, 1997): metal Schiff-base protein complexes (Merck & Co.)

#### (a) Chemistry professionals

R.E. Bruce (Ph.D. student, 1974-78; RCMP)

H. Yokoi (postdoctoral fellow, 1975-76) (Hamamatsu University)

L.K-M. Lau (M.S. student, 1975-76) (RCMP)

J. Stenhouse (undergraduate, 1977)

U. Sakaguchi (postdoctoral fellow, 1976-77) (Kumamoto University)

P.J. Burke (postdoctoral fellow, 1979-80)

K.A. Canella (undergraduate, Spring 1980) (Johns Hopkins U.)

T.N. Rao (postdoctoral fellow, 1980-82) (US Pharmacopeia)

S. Burman (postdoctoral fellow, 1980-81) (Smith/Kline Glaxo)

A. Greway (undergraduate) Fall, Spring 1982-83

C.G. Wahlgren (graduate student; P/T 1981-84, F/T 1984-1989 Ph.D.: "Iron Complexes as Models for Non-Heme Iron Proteins") (DS Chemicals)

M. Palaniandavar (postdoctoral fellow, 1983-85, 1989) (Professor of Chemistry, Bharathidasan U.)

J.J. Stephanos (graduate student) 1984-1989 Ph.D.: Hemoproteins: Reactivity and Spectroscopy (Assoc. Prof. of Chemistry, El-Menoufia U., Egypt)

M.R. McDevitt (postdoctoral fellow), 1986-89: Models for Nonheme, Nonsulfur Iron Proteins (Sloan-Kettering Cancer Institute)

- M. Giangordano (B.S. student) 1988 (organic electrochemistry). (PhD program, U. of California)
- T. J. DiFeo (graduate student) 1987-1990 Ph.D.: Heme Protein Chemistry (Johnson & Johnson)
- Ru Yu (M.S. student) 1988- 1990: Redox-active & bioactive ruthenium complexes (Glaxo Smith/Kline).
- S. Farina (B.S. student) 1990-: Copper phenolate complexes & invertebrate hemoglobins.
- R.P.F. Kanters (postdoctoral fellow, 1990-91): pyridyl-thioether copper electron-transfer chemistry (University of Richmond).
- Uma Varadharajan (M.S. student, 1991): ruthenium *N*-heterocyclic chelates (PhD program American U.)
- Anne Dzurani (B.S. student, 1991): phenylbenzimidazylpyridine-copper chelates.
- V.V. Pavlishchuk (postdoctoral fellow, 1991-92): macrocyclic thioether copper chemistry. (Pizarshevskii Institute, NASU).
- D. Bates (B.S. student, 1992): coordination compounds of oximes & benzimidazoles.
- J.J. Stephanos (postdoctoral fellow, 1992-4) Thermodynamics & structure in heme proteins.
- Susanne Knupp (B.S. student, 1993: binding to a sterically hindered substrate.
- Scott A. Farina (Ph.D. student) 1992-97: Invertebrate hemoglobins' chemistry (Wissahickon School District).
- K. Helmetag (B.S./M.S. student, 1994-2000): molecular tweezers and distorted imine chelates.
- G. J. Gilbert (Ph.D. student, 1994-): novel heterocyclic chelating agents (Fox Chase Cancer Center).
- K. K. Nanda (postdoctoral fellow, 1994-): oligometallic & multicavity macrocycles (Merck & Co.)
- P. Napolitano (B.S. student, 1995): metal complexes of purine derivatives.
- J. Freymuller (B.S. student, 1995): optical spectra of pyrazole- and imidazole-chelated copper(II).
- L. M. Jackson (Ph.D. applicant, 1996-) myoglobin active site chemistry (Lecturer, Brown U., RI)
- J.J. Stephanos (adjunct associate professor, 1996) Thermodynamics & structure in heme proteins.
- C. Bodnar (B.S. student, 1996): heme exchange processes (Johnson Matthey Inc.)
- M. J. Prushan (Ph.D. applicant, 1996-2001) novel macrocyclic complexes of groups 10 and 11 (Lecturer in Chemistry, Lasalle U.)
- T. Rogers (B.S. student, 1997): heme exchange processes.
- S. Swan. (B.S. student, 1997): ligands for new binuclear chelates (Atofina Inc.)
- V.V. Pavlishchuk (visiting fellow, 1998-99): thioether-oximate nickel chemistry (Pizarshevskii Institute, NASU).
- Nicholas P. Stahl (B. S. student, 1998-99): new isoindoline chelates and superexchange pathways (PhD program, Northwestern U.)
- Alexander M. Falat (M.S. student, 1999-2001): pyrazole-derived ligand chelates of copper(II) (Cherry Hill East School District).
- T. Perillo (B.S. student, 1999): Cu-catalysed aromatic hydroxylation (PhD program, Temple U.).
- Dr. S. Elshani (visiting fellow, 2000): Novel chelating agents and their precursors (Message Pharmaceutical)
- Dr. M. Vaidyanathan (visiting scholar, 2000-): Biomimetic dinuclear chelates.
- R. K. Bowman (B. S. student, 2000-2001): new isoindoline chelates and superexchange pathways (U. of North Carolina).
- J. W. Bennett (B. S. student, 2002-): new isoindoline chelates and superexchange pathways.

#### **Funded Proposals:**

"Models for Non-Heme Iron Proteins": Drexel University Research Award, \$5,000 & Research Assistantship (Funded 1980-81).

"Synthesis, Structure, Spectroscopy and Electrochemistry of Copper Chelates with Benzimidazole-Thioether Ligands", (A.W. Addison, Project Coordinator; Co-investigator J. Reedijk): North Atlantic Treaty Organization (funded, 1983-86, BF480,000)

"Surface Modification of Poly(methyl methacrylate) Intraocular Lens Implants" (to Ophthalmic Research Corporation, Philadelphia) I.L. Kamel & A.W. Addison, co-principal investigators (\$140,000 gross). Funded July '88 to June '89.

"The Cambridge Crystallographic Data Base", Pittsburgh Supercomputing Center, #SEE000005P, awarded 50 Tourneys, May 2000- May 2004.

The Arcadia Foundation, "Nuclear Magnetic Resonance Spectrometer", with A. Smith & K. MacNamara, \$50,000, July 2002. Funded.

#### **Other Support Solicitations:**

July 1989: With Dr. K. Owens, secured donation of a Varian AA6 atomic absorption spectrophotometer from Children's Hospital, Philadelphia, for undergraduate instrumentation lab. Approx. market value \$4500.

K.G. Owens & A.W. Addison, co-principal investigators: "Undergraduate Laboratory Instrumentation & Renovation". The H.D.G. Beatty Foundation, \$2,500 for F/Y-1990. Funded.

A.W. Addison & K.G. Owens, co-principal investigators: "Undergraduate Laboratory Instrumentation". The Quaker Chemical Foundation, April 1990, \$2,800 for F/Y-1990. Funded.

With D. Alford & K. G. Owens, Sept. 1990, secured donation of a Varian-219 uv-vis-nir research grade spectrophotometer from Rhône-Poulenc-Rorer Pharmaceuticals, Fort Washington PA, for undergraduate instrumentation lab. Approx. market value \$8000.

With D. Alford & K. G. Owens, Sept. 1990, secured donation of a Shimadzu-AA670 computer-controlled atomic absorption spectrophotometer from Rhône-Poulenc-Rorer Pharmaceuticals, Fort Washington PA, for undergraduate instrumentation lab. Approx. market value \$22,000.

K.G. Owens & A.W. Addison, co-principal investigators: "Undergraduate Laboratory Instrumentation & Renovation: GC/MS Instrumentation" (\$53,500 instrument) Hewlett-Packard Corp., Sept. 1990.

K.G. Owens & A.W. Addison, co-principal investigators: "Undergraduate Laboratory Instrumentation & Renovation: Fluorescence Instrumentation" (\$35,000 instrument) SLM-Aminco, Inc., Sept. 1990.

K.G. Owens & A.W. Addison, co-principal investigators: "Undergraduate Laboratory Instrumentation & Renovation". The George W. Rentschler Foundation, Aug. 1990, \$5,308 for F/Y-1991.

A.W. Addison & K.G. Owens, co-principal investigators: "Undergraduate Laboratory Instrumentation & Renovation: The C. & M. Lindback Foundation, Nov. 1990, \$5,970 for F/Y-1991.

A.W. Addison & K.G. Owens, co-principal investigators: "Raman Spectrometer for Undergraduate Laboratory": The National Science Foundation, Nov. 1990, \$55,640 for F/Y-1991.

A.W. Addison & K.G. Owens, co-principal investigators: "Undergraduate Laboratory Instrumentation". The Quaker Chemical Foundation, April 1991, \$2,950 for F/Y-1991. (Funded).

K.G. Owens & A.W. Addison, co-principal investigators: "Undergraduate Laboratory Instrumentation & Renovation: Magnetic Susceptometer". The H.D.G. Beatty Foundation, \$3,145 for F/Y-1992. (Funded).

"Interactive Surfaces for Biomolecular Composites" (to National Science Foundation) I.L. Kamel P/I, A.W. Addison, R. Beard, J. Bentz, M. El-Sherif, F. Ko, R. Mutharasan & Y. Wei, co-P/I's (\$1,463,220 gross). (Unfunded)

A.W. Addison, K.G. Owens & A.L. Smith, co-principal investigators: "Raman Spectrometer for Undergraduate Laboratory": The National Science Foundation, Nov. 1991, \$58,730 for F/Y-1992. (Unfunded)

A.W. Addison, K.G. Owens & A.L. Smith, co-principal investigators: "Raman Spectrometer for Undergraduate Laboratories": The National Science Foundation, Nov. 1992, \$77,700 for F/Y-1993. (Unfunded)

A.W. Addison & K.G. Owens, co-principal investigators: "Undergraduate Laboratory Instrumentation". The Quaker Chemical Foundation, April 1993, \$2,950 for F/Y-1993. (Funded partially.)

K.G. Owens, A.W. Addison & A.L. Smith, co-principal investigators: "Time-Resolved Fluorescence Instrumentation for Undergraduate Laboratories": The National Science Foundation, Nov. 1992, \$26,016 for F/Y-1994. (Unfunded)

K.G. Owens, A.W. Addison & A.L. Smith, co-principal investigators: "A Pulsed Excitation/Detection System for Laser Spectroscopy": The National Science Foundation, Nov. 1993, \$28,591 for F/Y-1994. (Unfunded)

A. W. Addison & R.O. Hutchins, "Establishment of a Resource Room for Undergraduate Chemistry Majors", Drexel University Teaching/Learning Committee, \$3300, 1994.

K.G. Owens & A.W. Addison, co-principal investigators: "A Pulsed Excitation/Detection System for Laser Spectroscopy": The National Science Foundation, Nov. 1994, \$25,241 for F/Y-1995. (Unfunded)

V. V. Pavlishchuk & A.W. Addison, co-principal investigators: "Transition Metal Complexes with Ligands Possessing the Redox Response: Synthesis and Study of their Molecular Structure, Spectral, and Redox Properties": The U. S. Civilian Research & Development Foundation, March 1996, \$71,250 for A/Y-1996-97-98 (Unfunded).

Burroughs Wellcome Fund, Interfaces Between the Physical, Chemical, Computational, and Biological Sciences, "The Nature of Protein-Protein Interactions: An Interdisciplinary Training Program", submitted jointly with co-PIs B. Jameson and F. Ferrone, (one of 14 cooperating faculty), \$2,188,824. (submitted 4/10/00)

National Science Foundation Chemical Research Instrumentation and Facilities Program, "Purchase of a Liquid Chromatograph/Mass Spectrometer System", submitted jointly with K.G. Owens, J. P. Foley, R.O. Hutchins, A.L. Smith, Y. Wei and R. Mutharasan, \$155,817, (with University match: \$231,635), NSF Proposal # 0091923. (submitted 7/17/00)

V. V. Pavlishchuk & A.W. Addison, co-principal investigators: "Homo- and Heteronuclear Ni(II), Cu(II) and Cr(III) Complexes with Tetraazamacrocycles and Polydentate Oximes": The U. S. Civilian Research & Development Foundation, \$90,000 for A/Y-2001-2-3 (submitted 18 May 2001).

National Science Foundation Chemical Research Instrumentation and Facilities Program, "Purchase of a Liquid Chromatograph/Mass Spectrometer System", submitted jointly with K.G. Owens, P. Handel, J. P. Foley, R.O. Hutchins, A.L. Smith, Y. Wei and R. Mutharasan, \$170K, (with /University match: \$260K), National Science Foundation, submitted July 2001.

National Science Foundation, "Environmentally-Conscious and Energy-Saving Process for Chemical Liquid Deposition of Mini-Structures and Microsystems", co-PI with G. Zhou (PI) and F. Wang (co-PI), \$385,950 for 2002-2005. Submitted 1 Feb. 2002.

National Science Foundation, "An Economical, Energy-Efficient and Environmentally-Benign Process for Chemical Liquid Deposition (EEEP-CLD) of Thin Films and Microstructures", co-PI with G. Zhou (PI) and F. Wang (co-PI), \$118,697 for 1 Sept 2002- 31 Aug 2003. Submitted 10 Apr. 2002.

The Quaker Foundation, "Nuclear Magnetic Resonance Spectrometer", with A. Smith & K. MacNamara, \$50,000, July 2002.



National Science Foundation: "An Economical, Energy-efficient and Environmentally-benign Chemical Thermolysis Printing (CTP) for 3-D Microstructure Fabrication" Co-PI with G. Zhou. (Total sponsor funding \$443K), July 2003 - June 2006. Submitted 3 Feb. 2003.

#### Research Lectures and Seminars:

(A) Seminar on spectroscopic, structural and redox chemistry of copper(II/I) as related to the active-site properties of copper proteins.

1. Western Washington University, Bellingham, WA, 1976; 2. The University of Calgary, Calgary, Alta., 1977; 3. Sydney University, Sydney, NSW, Australia, 1977; 4. Battelle Northwest Research Institute, Richland, WA, 1977; 5. U.S. Naval Research Laboratories, Washington, D.C., 1977; 6. Villanova University, Villanova, PA April 1979; 7. Lehigh University, Bethlehem, PA, April 1980; 8. East Stroudsburg State College, Stroudsburg, PA, Feb. 1981; 9. Bryn Mawr College, Bryn Mawr, PA, Feb. 1981; 10. Fordham University, The Bronx, NY, March 1981; 11. Rutgers University, New Brunswick, NJ, April 1981; 12. California State University, Los Angeles, CA, April 1981; 13. Monash University, Clayton, Vic., Australia, April 1981; 14. University of Delaware, Newark, DE, Oct. 1981; 15. University of Massachusetts, Amherst, MA, April 1982; 16. University of North Carolina, Greensboro, NC, April 1982; 17. University of Maryland, Catonsville, MD, Nov. 1982; 18. Cleveland State University, Cleveland, Ohio, March 1983; 19. Barnard College, New York, NY, February 1983; 20. University of Maryland, College Park, Md., May 1983; 21. City University of New York, Brooklyn, NY, October 1983; 22. Gettysburg College, Gettysburg, Pa., November 1983; 23. ACS Susquehanna Valley Section, Bloomsburg, Pa., February 1984; 24. Stevens Institute of Technology, Hoboken, NJ, February 1984; 25. Rijksuniversiteit Leiden, Leiden, The Netherlands, May 1984; 26. University College, Cardiff, Wales, May 1984; 27. Colgate University, Hamilton, NY, November 1984; 28. State University of New York at Binghamton, NY, November 1984; 29. The University of Cincinnati, Cincinnati, OH, November 1984; 30. Xavier University, Cincinnati, OH, November 1984; 31. Universiteit van Amsterdam, Amsterdam, The Netherlands April 1985. (The John van Geuns Fonds Lecture); 32. The Institute for Structural and Functional Studies, Philadelphia PA, October 1985; 33. Drexel University, November 1987 (joint Chemistry, Biosciences); 34. Muhlenberg College, Allentown PA, February 1989; 35. Bryn Mawr College, Bryn Mawr, PA, March 1989; 36. l'Université de Genève, Switzerland, October 1990; 37. l'Université de Neuchâtel, Switzerland, October 1990; 38. Philadelphia College of Pharmacy & Science, October 1991.

(B) Seminar on the chemistry of the non-heme binuclear iron dioxygen-transporting protein, hemerythrin.

1. University of New South Wales, Sydney, NSW, Australia, 1977; 2. University of Idaho, Moscow, ID, 1977; 3. The University of Scranton, Scranton, PA, Nov. 1980; 4. Albright College, Reading, PA., Oct. 1982; 5. Lafayette College, Easton, PA, Nov. 1982; 6. Ramapo College, N.J., December 1982; 7. State University of New York, Potsdam, N.Y., April 1983; 8. Drexel University, ACS Student Group, April 1989.

(C) Seminar on the structural, kinetic and spectroscopic properties of *Glycera dibranchiata* hemoglobin and ruthenium-substituted myoglobin.

1. U.S. Dept. of Agriculture Eastern Regional Research Center, Philadelphia, PA, May 1980; 2. University of Virginia, Charlottesville, VA, Sept 1980; 3. Wright State University, Dayton, OH, April 1982; 4. Drexel University, November 1982; 5. Howard University, Washington, D.C., January 1983; 6. Lowell University, Lowell, Mass., April 1983; 7. Clark University, Worcester, Mass., April 1983; 8. St. Lawrence University, Canton, N.Y., April 1983; 9. Juniata College, Huntingdon, Pa., May 1983; 10. George Washington University, Washington, DC, September 1983; 11. Simmons College, Boston, Mass., October 1983; 12. LaSalle College, Philadelphia, Pa., November 1983; 13. Georgetown University, Georgetown, DC, October 1984; 14. Rijksuniversiteit Leiden, Leiden, The Netherlands, April 1985; 15. Rutgers, The State University, New Brunswick, NJ, October 1985; 16. Fordham University, The Bronx, NY, October 1985; 17. Villanova University, Villanova PA, February 1989.

(D) Other seminars:

1. "Blood in the Spectrometer: Molecular Architecture in some Simple Heme Proteins". Gorlaeus Laboratories, Rijksuniversiteit Leiden, The Netherlands, Sept. 1990.; Lincoln University, Lincoln, PA, Nov. 1993.

2. "Static Stereochemistry in Copper Complexes", l'Université de Genève, Switzerland, October 1990.
3. "Static Structural Phenomena in Copper Complexes", l'Université de Lausanne, Switzerland, October 1990.
4. "Blood in the Spectrometer: Molecular Architecture in some Imidazole Iron Proteins", l'Université de Genève, Switzerland, October 1990.
5. "Waving a Flag under the Chandelier: Sulfur and Imidazole in Some (Bio)inorganic Systems"; Swarthmore College, Swarthmore PA, February 1991.
6. "Be Careful Sweeping under the Chandelier: Sulfur and Imidazole in Some (Bio)inorganic Systems"; University of Pennsylvania, Philadelphia PA, November 1991.
7. "Some Rôles of Sulfur and Imidazole in (Bio)inorganic Systems"; University of Delaware, Newark DE, September 1992
8. "Some Rôles of Sulfur and Imidazole in (Bio)inorganic Systems"; Institute for Biomedical Science & Engineering, Drexel University, March 1993.
9. "Some Rôles of Sulfur and Imidazole in (Bio)inorganic Systems"; Lincoln University, Lincoln, PA November 1993.
10. "Blood in the Spectrometer: Molecular Architecture in some Iron Proteins". West Chester University, West Chester PA, Feb. 1995.
11. "Blood in the Spectrometer: Molecular Architecture in some Iron Proteins". The College of William & Mary, Williamsburg VA, April. 1995.
12. "Weird Worms & Dead Elephants: Molecular Architecture of Natural Myoglobin Variants", Drexel University Biomedical Engineering & Science Institute, Feb. 1996.
13. "Some Effects of Sulfur and Imidazole Coordination in Copper (Bio)inorganic Chemistry", Guelph University, March 1997.
13. "Some Effects of Sulfur and Imidazole Coordination in Copper (Bio)inorganic Chemistry", University of Toronto, March 1997.
14. "Confessions of an Itinerant Molecularist", Festschrift Symposium "From Canterbury to Cardiff" in honor of Prof. R. D. Gillard. Cardiff, Wales, December 1998 [Invited speaker].
15. "Midnight in the Garden of Transition Metals: Some Electronic Properties of Copper & Nickel Complexes", Howard University, Washington DC, April 1999.

**A: Abstracts/Conference Proceedings (\*denotes presenter):**

1. A.W. Addison, "Redox Properties of Binuclear Copper Complexes", 170th American Chemical Society National Meeting, Chicago, IL, 1975, INOR-006.
2. A.W. Addison\* and H. Yokoi, "Redox and Spectroscopic Properties of Pseudotetrahedral Copper Complexes", 172nd. American Chemical Society National Meeting, San Francisco, CA, 1976, INOR-230
3. M. Wicholas\*, A.W. Addison and L.K.-M. Lau, "Square Pyramidal Adducts of the Macrocyclic Copper(II) Complex, Cu(cyclops)<sup>+</sup>", 173rd American Chemical Society National Meeting, New Orleans, 1977, INOR-183.
4. A.W. Addison and R.E. Bruce\*, "Chemistry of Hemerythrin from the Sipunculid *Phascolosoma lurco* " American Chemical Society 32nd. Northwest Regional Meeting, Portland, OR, 1977, BIOL-064.
5. J.B.R. Dunn, A.W. Addison, R.E. Bruce, J.S. Loehr and T.M. Loehr\*, "Comparison of Hemerythrins from Four Species of Sipunculids by Optical Absorption, Circular Dichroism, Fluorescence Emission and Resonance Raman Spectroscopy", American Chemical Society 32nd Northwest Regional Meeting, Portland, OR, 1977, BIOL-066.
6. A.W. Addison\* and (Ms.) J. Stenhouse, "Redox Chemistry of Pyrrole-2-alimine Chelates", American Chemical Society 32nd Northwest Regional Meeting, Portland, OR, 1977, INOR-130.
7. A.W. Addison, C. Landee, M. Wicholas\* and R.D. Willett, "Synthesis and Magnetic Properties of Exchange-Coupled Binuclear Copper(II) Macrocyclic Complexes", XIXth. International Coordination Chemistry Conference, Prague, Czechoslovakia, 1978.

8. A.W. Addison, M. Cairns, D.H. Dolphin, N.P. Farrell, B.R. James\*, A.J. Murray, D.R. Paulson and J. Thornback, "Reaction of Small Gas Molecules with Ruthenium Complexes of Porphyrins, Phthalocyanines, and Other Related Macrocycles", XIXth. International Coordination Chemistry Conference, Prague, Czechoslovakia, 1978.
9. A.W. Addison, J.P. Barnier, V. Gujral, Y. Hoyano, S. Huizinga and L. Weiler\*, "The Design of New Organic Electron Acceptors", NATO ARI Conference, Les Arcs, France, 1978.
10. A.W. Addison\*, K.A. Canella and P.L. Dougherty, "Coelomic Respiratory Proteins of Some Marine Invertebrates", American Chemical Society 180th National Meeting and 2nd North American Chemical Congress, Las Vegas, NV, Fall 1980, BIOL-203.
11. A.W. Addison\* and L.K. Thompson, "Trigonal Copper(II) Complexes With Biomimetic Donors", American Chemical Society 180th National Meeting and 2nd North American Chemical Congress, Las Vegas, NV Fall 1980, INOR-040 ("Best Poster in Session").
12. A.W. Addison and P.L. Dougherty\*, "The Coelomic Respiratory Protein of *Siphonosoma cumanense*" American Chemical Society Mid-Atlantic Regional Meeting, Washington, DC., Jan. 1981, #232.
13. A.W. Addison and S. Burman\*, "Redox and Coordination Chemistry of *Glycera americana* Hemoglobin", American Chemical Society Mid-Atlantic Regional Meeting, Newark, DE, April 1982.
14. A.W. Addison, "Aspects of the Redox Chemistry of Copper." (**Invited Research Paper**), International Conference on Inorganic and Biological Perspectives in Copper Chemistry, Albany, NY, June 1982.
15. A.W. Addison, B. Watts and M. Wicholas\*, "Synthesis and Properties of Square Pyramidal Adducts of Ni(cyclops)<sup>+</sup>" XXIIIrd. International Coordination Chemistry Conference, Budapest, Hungary, August 1982.
16. A.W. Addison, G. de Fotis and E. Sinn\*, "Copper(II) 2,5,8-Trithianonane-1,9-dicarboxylate Hydrate: a Linear Chain with Alternating d<sub>x2-y2</sub> - d<sub>z2</sub> Spin Coupling", American Chemical Society 185th. National Meeting, Seattle, WA, Spring 1983, INOR-104.
17. A.W. Addison and T.N. Rao\*, "Mercaptide Complexes of Copper(II)", American Chemical Society Mid-Atlantic Regional Meeting, The Poconos, PA, April 1983, #241.
18. A. W. Addison, "A Simple ESR Approach to Determining the Degree of Tetrahedral Distortion in Copper(II) Complexes" American Chemical Society 186th. National Meeting, Washington, DC, Fall 1983, INOR-087.
19. A. W. Addison\*, P. J. Burke, T.N. Rao, K. Henrick and E. Sinn, "Structural Chemistry and Spectroscopy of Copper(II) Complexes of the Tridentate Thioether Ligand Bis(2-benzimidazolethyl)sulfide", American Chemical Society 186th. National Meeting, Washington, DC, Fall 1983, INOR-090.
20. A. W. Addison\*, T.N. Rao, J. Reedijk, J. van Rijn and G.C. Verschoor, "Copper(II) Complexes of the Tetradentate Ligand 1,7-Bis(*N*-methylbenzimidazol-2-yl)-2,6-dithiaheptane", American Chemical Society 186th. National Meeting, Washington, DC, Fall 1983, INOR-346.
21. A. W. Addison, "Structural Indices and ESR Correlations For Copper(II) Centres", (**Invited Symposium Address**) American Chemical Society Mid-Atlantic Regional Meeting, Newark NJ, May 1984, 171.

22. K. van Rijn\*, A. W. Addison, W. L. Driessen and J. Reedijk, "Copper Chelates With Imidazole-Containing Ligands as Models for Type-I and Type-III Copper Proteins", International Conference on Inorganic and Biological Perspectives in Copper Chemistry, Albany NY, July 1984.
23. A.W. Addison\*, M. Palaniandavar, T.N. Rao and P.J. Burke, "Structural, Spectroscopic and Redox Studies of Some Five- and Six-Coordinate Copper(II) Complexes", International Conference on Inorganic and Biological Perspectives in Copper Chemistry, Albany NY, July 1984.
24. A.W. Addison\* and M. Palaniandavar; "Synthesis and Electron-Transfer Properties of Copper(II) Complexes of Multidentate Benzimidazole-Thioether Ligands"; American Chemical Society 188th. National Meeting, Philadelphia, PA, Fall 1984, INOR-068.
25. A.W. Addison\*, M. Palaniandavar and E. Sinn, "Aquobis(2,9-dimethyl-1:10-phenanthroline)-copper(II) Tetrafluoroborate Hydrate,  $[\text{Cu}(\text{Dmp})_2(\text{OH}_2)](\text{BF}_4)_2 \cdot \text{H}_2\text{O}$ "; American Chemical Society 188th. National Meeting, Philadelphia PA, Fall 1984; INOR-258.
26. A.W. Addison, R.J. Butcher\*, M. Palaniandavar and E. Sinn, "Structure, Redox Properties and Spectroscopy of a Copper Macrocyclic"; American Chemical Society 188th. National Meeting, Philadelphia PA, Fall 1984; INOR-259.
27. A.W. Addison\* and J.J. Stephanos, "Nitrosyliron(III) Hemoglobin: Autoreduction and Spectroscopy", Second International Conference on Bioinorganic Chemistry (ICBIC-2), Albufeira, Portugal, April 1985.
28. A.W. Addison\*, T.N. Rao, M. Palaniandavar, J. Reedijk and J. van Rijn, "Electron Transfer by Benzimidazole-Thioether "Blue" Copper(II) Models", American Chemical Society Mid-Atlantic Regional Meeting, Baltimore MD, September 1986, #136.
28. A.W. Addison and J.J. Stephanos\*, "Thermochromism of Monomeric Heme Proteins", American Chemical Society Mid-Atlantic Regional Meeting, Baltimore MD, September 1986, #137.
29. A.W. Addison, S. Burman, C.G. Wahlgren\*, E. Sinn and T. Brewer, "Iron(II) and Iron(III) Complexes of some Heterocyclic Diamines and Triamines", American Chemical Society Mid-Atlantic Regional Meeting, Baltimore MD, September 1986, #138.
30. A.W. Addison and J.J. Stephanos\*, "Aspects of the Chemistry of *Elephas maximus* Hemoglobin", 21st. American Chemical Society Mid-Atlantic Regional Meeting, Stockton NJ, May 1987, #120.
31. A.W. Addison\* and J.J. Stephanos, "Spin- and Other Equilibria of Monomeric Heme Protein Derivatives", Third International Conference on Bioinorganic Chemistry (ICBIC-3), Noordwijkerhout, The Netherlands, July 1987, I-22
32. T.J. DiFeo\*, A.W. Addison and J.J. Stephanos, "Column Chromatography Studies of Hemoglobin from the Bloodworm *Glycera dibranchiata*". 22nd. American Chemical Society Mid-Atlantic Regional Meeting, Millersville PA, May 1988, Abstract #35.
33. A.W. Addison\*, R.A. Butcher, M.R. Cain, M. Palaniandavar and C.G. Wahlgren, "Structural Studies of Metal Complexes with Dipicolylamine". 22nd. American Chemical Society Mid-Atlantic Regional Meeting, Millersville PA, May 1988, Abstract #198.
34. M.R. McDevitt and A.W. Addison\*, "Iron(III) Complexes as Models for the Specific Iron Binding Site of Lactoferrin." Third North American (ACS/CIC/SQM) Chemical Congress, Toronto, Canada, June 1988, Abstract #15.
35. R.J. Butcher\*, A.W. Addison, C.G. Wahlgren, M. Palaniandavar and E. Sinn, "Structure and Properties of Iron(II) and Copper(II) Complexes of Dipicolylamine", Third North American (ACS/CIC/SQM) Chemical Congress, Toronto, Canada, June 1988, Abstract #108.

36. A.W. Addison\*, J.J. Stephanos, P. Welch and C.I. Furtek, "Drug-Protein Interactions: Two-Site Binding of Heterocyclic and Anionic Ligands to a Monomeric Hemoglobin." Third North American (ACS/CIC/SQM) Chemical Congress, Toronto, Canada, June 1988, Abstract #473.
37. Y.Ru\* & A.W. Addison, "Phenanthroline and Benzimidazole Derivatives of Ruthenium(II) Complexes", Sigma Xi Research Symposium, Drexel University, Philadelphia PA, April 1989.
38. T.J. DiFeo\* & A.W. Addison, "Active Site Diversity and Heme Rotational Disorder in Monomeric Hemoglobin", Sigma Xi Research Symposium, Drexel University, Philadelphia PA, April 1989.
39. T.J. DiFeo\*, A.W. Addison & T. Kumosinski, "The Extracellular Erythrocyruorin from *Cirriformia tentaculata*", 23rd. American Chemical Society Mid-Atlantic Regional Meeting, Cherry Hill NJ, May 1989, Abstract #30.
40. T.J. DiFeo\* & A.W. Addison, "Active Site Diversity and Heme Rotational Disorder in a Monomeric Hemoglobin", 23rd. American Chemical Society Mid-Atlantic Regional Meeting, Cherry Hill NJ, May 1989, Abstract #90.
41. A.W. Addison & Y. Ru\*, "The UV-Visible and Fluorescence Spectra of some Ruthenium Complexes", 23rd. American Chemical Society Mid-Atlantic Regional Meeting, Cherry Hill NJ, May 1989, Abstract #95.
42. A.W. Addison\*, Y. Ru & M. R. McDevitt, "Ruthenium Chelates of 2,6-Bis(benzimidazol-2-yl)-pyridine and Related Benzimidazolyl- and Pyridyl-Ligands: Energy Transfer and Solvent Effects on Electron Transfer Properties", XXVIIth International Coordination Chemistry Conference, Queensland, June 1989, Abstract #W54.
43. A.W. Addison, L.L. Borer & E. Sinn\*, "Small Molecule Models of Copper(II) Proteins, Especially Those Involving Cu-S Bonding", 1989 Pacific Basin Conference, Honolulu, Hawaii, Dec. 1989, Abstract #128.
44. Y.Ru\* & A.W. Addison, "Synthesis, Properties and Substitution Reactions of [Ru(Pdto)(CH<sub>3</sub>CN)Cl](PF<sub>6</sub>): *Cis*- and *Trans*-Isomer Characteristics Compared", 24th. American Chemical Society Mid-Atlantic Regional Meeting, NJ, May 1990, Abstract #68.
45. T.J. DiFeo\* & A.W. Addison, "Applications of Analytical Chemistry in the Investigation of Heme Proteins", 24th. American Chemical Society Mid-Atlantic Regional Meeting, NJ, May 1990, Abstract #163.
46. A.W. Addison\*, S.A. Farina & M. Palaniandavar, Effects of Donor-Atom Type and Ligand Framework on the Electron-Transfer Properties of Copper(II)/Copper(I) Couples", American Chemical Society 200th. National Meeting, Washington, DC, August 1990. Abstract #446.
47. Y. Ru, M.R. McDevitt\* and A.W. Addison, "Redox Properties of Some Group-8 Complexes with Benzimidazole- and Pyridine-Derived Ligands", American Chemical Society 200th. National Meeting, Washington, DC, August 1990. Abstract #480.
48. J.J. Stephanos, A.W. Addison\* & T.J. DiFeo, "Cooperative Binding of Xanthines and s-Donors to a Monomeric Hemoglobin" Proceedings of the IEEE, 12, 1677-1678 [1990] (12th. International Conference, the IEEE Society for Engineering in Medicine and Biology, Philadelphia PA, Nov. 1990, Ed. P. Pedersen & B. Onaral)
49. A. W. Addison, T. N. Rao, M. R. McDevitt, J. P. Jasinski\*, R. Y. Pozdniakov, R. J. Butcher\* & E. Sinn, "An N<sub>2</sub>S<sub>2</sub>-Copper(II) Macrocyclic and a Pentacoordinate CuN<sub>3</sub>OS Pseudothiolate Complex Compared with their O-Donor Analogues", American Chemical Society 202nd. National Meeting, New York, NY, August 1991; INOR-262.

50. A. W. Addison\*, V. V. Pavlishchuk and R. J. Butcher, "Nickel(II) Complexes with Macrocyclic and Quasimacrocyclic Dithiadioximines", American Chemical Society 202nd. National Meeting, Washington, DC, August 1992; INOR-073.
51. S. A. Farina, J. J. Stephanos and A. W. Addison, "Response of Ligand Affinities to Changes in Heme Pocket Environment", *Proceedings*, 1993 Symposium on Protein Structure & Function, State College, PA, 1993, pp123.
52. S. A. Farina, J. J. Stephanos and A. W. Addison, "Active Site Investigation of *Riftia pachyptila* Extracellular Hemoglobin" 28th. American Chemical Society Mid-Atlantic Regional Meeting, MD, May 1994, Abstract #85.
53. A. W. Addison\*, K. K. Nanda, E. Sinn & L. K. Thompson, "Ferro- and Antiferromagnetic Chains of Cu(II) Thioether Carboxylates" 30th. American Chemical Society Mid-Atlantic Regional Meeting, Villanova PA, May 1996, Abstract #350.
54. A. W. Addison\*, K. K. Nanda, N. Paterson, U. Sakaguchi, E. Sinn & L. K. Thompson, "Ferro- and Antiferromagnetic Chains of Cu(II) Thioether Carboxylates" 31st International Conference on Coordination Chemistry, Vancouver, Canada, Aug. 1996, Abstract 5L22.
55. V. V. Pavlishchuk\*, S. V. Kolotilov, A. W. Addison & E. Sinn, "Crystal and molecular structure and spectroscopic and redox properties of  $\text{NiL}(\text{H}_2\text{O})_2(\text{ClO}_4)_2$  [L = 1,8-bis(2-pyridyl)-3,6-dithiaoctane]." 14th Ukrainian Conference on Inorganic Chemistry, Kiev, The Ukraine, September 1996, #116.
56. A. W. Addison, K. K. Nanda, N. Paterson, U. Sakaguchi, E. Sinn\* & L. K. Thompson, "Copper(II) and Nickel(II) Complexes of Anionic Dinucleating Macrocycles", American Chemical Society 214th. National Meeting, Las Vegas, NV, September 1997. Abstract #115.
57. J. G. Gilbert\* & A. W. Addison, "Synthesis, Redox & Spectroscopic Properties of Copper(II) and Nickel(II) Complexes with Pentadentate Thioether Ligands" 32nd. American Chemical Society Mid-Atlantic Regional Meeting, Madison NJ, May 1999, Abstract #81.
58. E. Sinn\*, V.V. Pavlishchuk, A. W. Addison, R. J. Butcher & S. V. Kolotilov, "Synthesis, Structural and Physicochemical Features of some Ni(II) Complexes with Sulfur & Nitrogen Donors", American Chemical Society National Meeting, New Orleans LA, Aug. 1999, Abstract #564.
59. N. P. Stahl\*, M. J. Prushan, A. W. Addison, R. J. Butcher & L. K. Thompson, "Copper dipyridyliminoiso-indoline oxalate: a molecular antiferromagnetic material", Drexel University/Medical College of Pennsylvania/Hahnemann University Research Conference, Philadelphia PA, Spring 1999.
60. M. J. Prushan\*, A. W. Addison & R. J. Butcher, "Pentadentate thioether-oxime macrocyclic and quasi-macrocyclic complexes of copper(II)", Drexel University/Medical College of Pennsylvania/Hahnemann University Research Conference, Philadelphia PA, Spring 1999.
61. S.V. Kolotilov\*, V.V. Pavlishchuk, R. J. Butcher, and A.W. Addison, "Synthesis, Structure, Spectrum and Characteristics of the Complex of Nickel (II) with the Triazaheptane- 2,9-Derivative of 4,7-Dithiadecane.", Ukrainian National Conference on Contemporary Problems in Inorganic Chemistry, Kiev, Ukraine, October 1999.
62. I.A. Kovia\*, V. V. Pavlishchuk, S. Trofimenko, E.A. Honecuk, J. Reedijk, G. van Albada, A. W. Addison, "Synthesis, Spectral and Magnetic Properties of a Polyhexacyanoferrate(III)." Ukrainian National Conference on Contemporary Problems in Inorganic Chemistry, Kiev, Ukraine, October 1999.
63. K.C. Ravrylenko\*, L. Thompson, A.W. Addison and V.V. Pavlishchuk, "Synthesis, Spectral, and Magnetic Properties of Novel Trinuclear Carboxylate Complexes of Iron(III) and Chromium(III).",

Ukrainian National Conference on Contemporary Problems in Inorganic Chemistry, Kiev, Ukraine, October 1999.

64. M.J. Prushan\*, A.W. Addison, S.V. Kolotilov, V.V. Pavlishchuk, R.J. Butcher and L.K. Thompson, "Multinuclear Thioether Oxime Complexes of Cu(II) and Ni(II), ACS 33rd Mid-Atlantic Regional Meeting, Newark, DE, May 2000, Abstract #238.
65. J.G. Gilbert\*, A.W. Addison, R.J. Butcher and Y. Nazarenko, "Nickel(II) and Copper(II) Chelates of Multidentate Benzimidazole Derived Ligands", ACS 33rd Mid-Atlantic Regional Meeting, Newark, DE, May 2000 Abstract #237.
66. V. V. Pavlishchuk\*, S. V. Kolotilov, A. W. Addison, R. J. Butcher and E. Sinn, "Structures, electronic spectra and redox properties of new nickel(II) complexes with hexadentate  $S_2N_4$ ,  $S_2N_3O$  and  $S_4N_2$  ligands", 1st Chianti Electrochemistry Meeting, "Metal-Containing Molecules" (MM - 1st ChEM), Siena, Italy, July-Aug. 2000. (<http://www.unisi.it/eventi/electrochem/zan1.htm>)
67. V. V. Pavlishchuk\*, S. V. Kolotilov, A. W. Addison, R. J. Butcher and E. Sinn, "The Redox Behaviour of Mono- and Trinuclear Ni(II) Complexes with S,N Ligands in Non-Aqueous Solutions." 1st Chianti Electrochemistry Meeting, "Metal-Containing Molecules" (MM - 1st ChEM), Siena, Italy, July-Aug. 2000. (<http://www.unisi.it/eventi/electrochem/zan1.htm>)
68. J. G. Gilbert\*, A. W. Addison, R. J. Butcher, and E. Sinn, "Study on the effect of ligand structures on the spectral and electrochemical properties of new copper(II) and nickel(II) complexes", American Chemical Society 220th. National Meeting, Washington DC, August 2000. Abstract #94.
69. S. Cheng\*, S. Li, A. W. Addison, F. Papadimitrakopoulos, B. Hsieh and Y. Wei, "Synthesis and characterization of aniline derivatives modified 8-hydroxylquinoline ligands and their metal complexes", American Chemical Society 220th. National Meeting, Washington DC, August 2000. Abstract #229.
70. M. J. Prushan\*, A. W. Addison, V. V. Pavlishchuk, S. V. Kolotilov, G. M. Shalhoub, P. T. Downing, R. J. Butcher and L. K. Thompson, "Thioether-oxime Ni(II) triangles: Effects of linking groups on magnetic and electronic properties", American Chemical Society 220th. National Meeting, Washington DC, August 2000. Abstract #96.
71. V.V. Pavlishchuk\*, S.V. Kolotilov, A.W. Addison, M.J. Prushan, R. J. Butcher, L. K. Thompson, D. Schollmeyer and E.A. Goresnik, "Tri- and Tetranuclear Complexes with Polydentate Ligands Bearing Oxime Groups." Euresco Conference on Inorganic Chemistry: "Design and Properties of Low Nuclearity Metal Complexes", San Feliu de Guixols, Spain, September 2000.
72. M. J. Prushan\*, A. W. Addison, S. V. Kolotilov, V. V. Pavlishchuk, R. J. Butcher and L. K. Thompson, "A New Class of Scorpionate Ligands and Related Nickel(II) Chameleon Complexes of Thioether-Oximates". American Chemical Society Philadelphia Section Graduate Research Day, Philadelphia, Jan. 2000. (submitted).
73. A. M. Falat\*, A. W. Addison & R. J. Butcher, "Comparison of the Effects of Replacing Pyridyl and Benzimidazole Ligands with Substituted Pyrazoles on the Electrochemistry of Copper(II)". American Chemical Society Philadelphia Section Graduate Research Day, Philadelphia, Jan. 2000, #32.
74. A.W. Addison\*, M.J. Prushan, V.V. Pavlishchuk, S.V. Kolotilov, R.J. Butcher, E. Sinn & L.K. Thompson, "Metal-Promoted Coupling of Oxime with Nitrile". ACS 34th Mid-Atlantic Regional Meeting, Towson, MD, May 2001, Abstract #152.
75. J.G. Gilbert, A.W. Addison, D. Titus, P. Swaminathan & R.J. Butcher, "Copper Complexes with Unusually Large Chelate Rings". ACS 34th Mid-Atlantic Regional Meeting; Towson, MD, May 2001, Abstract #227.

76. A.M. Falat, A.W. Addison & R.J. Butcher, "Comparison of the Effect of Different Substituents on Pyrazole-Derived Ligands in Copper(II) Complexes". ACS 34th Mid-Atlantic Regional Meeting, Towson, MD, May 2001 , Abstract #228.
77. A.W. Addison, M.J. Prushan, S.V. Kolotilov, V.V. Pavlishchuk, R.J. Butcher & L.K. Thompson, "Mono- and Trinuclear Nickel(II) Thioether-Oxime Complexes". ACS 34th Mid-Atlantic Regional Meeting, Towson, MD, May 2001 , Abstract #229.
78. S.V. Kolotilov\*, A.W. Addison, M.J. Prushan, D. Schollmeyer, T. Weyhermüller, L.K. Thompson, E.A. Goreshnik, V.V. Pavlishchuk, "Bi- and tetranuclear Ni(II) complexes with butanedione-monoxime and polydentate amines." XVth Ukrainian Conference on Inorganic Chemistry with Foreign Participation. Kiev, 3-7 September, 2001, pp 12.

#### **B: Instructional Publications:**

1. A.W. Addison, "Calorimetric Determination of Heat of Neutralization", (Undergraduate Laboratory Experiment) Drexel University, 8pp, 1983-7.
2. A.W. Addison, "Metals and Nonmetals: a Laboratory Comparison", (Undergraduate Laboratory Experiment) Drexel University, 11pp, 1984-7.
3. A.W. Addison, "Synthesis and Spectra of Aquapentaamminecobalt(III) Sulfate and its Reaction Products", (Undergraduate Laboratory Experiment) Drexel University, 10pp, 1984-7.
4. A.W. Addison, "Metal Ion Electrochemical Cells", (Undergraduate Laboratory Experiment) Drexel University, 10pp, 1985-7.
5. E.T. Cutler and A.W. Addison, "Separation of Organic Compounds", (Undergraduate Laboratory Experiment) Drexel University, 10pp, 1985, 1986.
6. S. Solomon and A.W. Addison, "Determination of Lactose in Milk" (Undergraduate Laboratory Experiment) Drexel University, 5pp, 1986, 1987.
7. A.W. Addison, "Synthesis of a Coordination Complex and its Analysis by Redox Titrimetry", (Undergraduate Laboratory Experiment) Drexel University, 11pp., 1986, 1987.
8. A.W. Addison, S. Solomon and J. Scattolini, "Concepts in General Chemistry: Laboratory Manual", Kendall-Hunt Publishing Co., 115pp, 1987.
9. A.W. Addison, "Reaction Thermodynamics from Cell Potential", (Undergraduate Laboratory Experiment) Drexel University, 4pp, 1986, 1988, 1989, 1990.
10. A.W. Addison, S. Nagy, S. Solomon and J. Scattolini, "Concepts in General Chemistry: Laboratory Manual", Kendall-Hunt Publishing Co., 115pp, 2nd. Edn., 1988.
11. A.W. Addison & T.J. DiFeo, "Enzyme Kinetics", (Undergraduate Laboratory Experiment) Drexel University, 3pp, 1989, 1990.
12. T.J. DiFeo & A.W. Addison, "Heat Capacity", (Undergraduate Laboratory Experiment) Drexel University, 3pp, 1988, 1989, 1990.
13. T.J. DiFeo & A.W. Addison, "Binding of Small Molecules to Proteins: Determination of an Equilibrium Binding Constant" (Undergraduate Laboratory Experiment) Drexel University, 4pp, 1990.
14. A.W. Addison, S. Nagy, S. Solomon and J. Scattolini, "Concepts in General Chemistry: Laboratory Manual", Kendall-Hunt Publishing Co., 115pp, 3rd. Edn., 1991.



15. S. Solomon, A.W. Addison, A. Lee and J. Scattolini, "Concepts in General Chemistry: Laboratory Manual", Kendall-Hunt Publishing Co., 149pp, 4th. Edn., 1993.

16. S. Solomon, A.W. Addison, A. Lee and E. Thorne, "Concepts in General Chemistry: Laboratory Manual", Kendall-Hunt Publishing Co., 158pp, 5th. Edn., 1997.

17. S. Solomon, M. Oliver-Hoyo, A.W. Addison, A. Lee and E. Thorne, "Concepts in General Chemistry: Laboratory Manual", Kendall-Hunt Publishing Co., 158pp, 6th. Edn., 1999.

**C: Articles Published in Refereed Journals (\*denotes Senior Author):**

1. A.W. Addison and D.P. Graddon\*, "Nickel Complexes of 3-Alkylacetylacetones." *The Australian Journal of Chemistry*, **21**, 2003- (1968)

2. A.W. Addison and R.D. Gillard\*, "Superoxide-Bridged Binuclear Complexes of Rhodium(III)", *The Journal of the Chemical Society, Dalton Transactions*, 2523-2526 (1970).

3. A.W. Addison, K. Dawson (Ms.), R.D. Gillard\*, B.T. Heaton, H. Shaw, "Synthesis and Characterisation of Rhodium(III) Complexes Containing Nitrogen Heterocyclic Ligands", *The Journal of the Chemical Society, Dalton Transactions*, 589-596 (1972).

4. A.W. Addison, R.D. Gillard\* and D.H. Vaughan, "Polarography of Rhodium(III) Compounds", *The Journal of the Chemical Society, Dalton Transactions*, 1187-1193 (1973).

5. A.W. Addison and R.D. Gillard\*, "Adducts of Coordination Compounds, Part IX; Halocarbon Solvates of Trihalotrispyridinerhodium(III) Complexes", *The Journal of the Chemical Society, Dalton Transactions*, 2003-2009 (1973)

6. A.W. Addison and R.D. Gillard\*, "Adducts of Coordination Compounds, Part X; Solvates and Adducts of Trans-Dihalotetrapyridinerhodium(III) Salts", *The Journal of the Chemical Society, Dalton Transactions*, 2009-2012 (1973)

7. A.W. Addison, R.D. Gillard\*, P.S. Sheridan, L.R.H. Tipping, "Syntheses and Properties of Some Oxalato-rhodium(III) Complexes", *The Journal of the Chemical Society, Dalton Transactions*, 709-716 (1974).

8. A.W. Addison, "One-Electron Redox Processes at Binuclear Copper Centres", *Inorganic & Nuclear Chemistry Letters*, **12**, 899-903 (1976).

9. A.W. Addison\*, T.H. Li and L.S. Weiler\*, "Redox Properties of 2,4,7,8-tetramethoxyselenanthrene, a Charge-Transfer Donor", *The Canadian Journal of Chemistry*, **55**, 766-770 (1977).

10. H. Yokoi and A.W. Addison\*, "Spectroscopic and Redox Properties of Pseudotetrahedral Copper(II) Complexes. Their Relationship to Copper Proteins." *Inorganic Chemistry*, **16**, 1341-1349 (1977).

11. J.B.R. Dunn, A.W. Addison, R.E. Bruce, T.M. Loehr\* and J.S. Loehr, "Comparison of Hemerythrins from Four Species of Sipunculids by Optical Absorption, Circular Dichroism, Fluorescence Emission and Resonance Raman Spectroscopy", *Biochemistry*, **16**, 1743-1749 (1977).

12. U. Sakaguchi and A.W. Addison\*, "Structural Implications for Blue Protein Copper Centers from Electron Spin Resonance Spectra of Cu(II)S<sub>4</sub> Chromophores", *Journal of the American Chemical Society*, **99**, 5189-5190 (1977).

13. A.W. Addison\* and R.E. Bruce, "Chemistry of *Phascolosoma lurco* Hemerythrin" *Archives of Biochemistry & Biophysics*, **183**, 328-332 (1977)

14. A.W. Addison\*, N.S. Dalal, Y. Hoyano, S. Huizinga and L. Weiler\*, "The Chemistry of Anions Derived from Tetracyanodiphenoquinodimethane (TCNDQ)", *The Canadian Journal of Chemistry*, **55**, 4191-4199 (1977).
15. A.W. Addison\*, M. Carpenter, L.K.-M. Lau and M. Wicholas\*, "Coordination Sphere Flexibility at Copper: Chemistry of a Unipositive Copper(II) Macrocycle, Cu(cyclops)<sup>+</sup>", *Inorganic Chemistry*, **17**, 1545-1552 (1978).
16. A.W. Addison\* and J.H. Stenhouse, "Remote Substituent Effects in *N*-Arylpyrrole-2-Carboxaldiminatocopper(II) Complexes", *Inorganic Chemistry*, **17**, 2161-2165 (1978).
17. E.W. Ainscough\*, A.W. Addison, D. Dolphin and B.R. James, "Iron Porphyrin Phenoxides: Models for Some Hemoglobin Mutants", *Journal of the American Chemical Society*, **100**, 7585-7591 (1978).
18. U. Sakaguchi and A.W. Addison\* "Spectroscopic and Redox Studies of Some Copper(II) Complexes with Biomimetic Donor Atoms: Implications for Protein Copper Centres", *The Journal of the Chemical Society, Dalton Transactions*, 600-608 (1979)
19. D.R. Paulson, A.W. Addison\*, D. Dolphin\* and B.R. James\*, "Preparation of Ruthenium(II) and Ruthenium(III) Myoglobin and the Reaction of Dioxygen and Carbon Monoxide with Ruthenium(II) Myoglobin", *The Journal of Biological Chemistry*, **254**, 7002-7006 (1979).
20. D. Dolphin\*, A.W. Addison, M. Cairns, R.K. DiNello, N. Farrell, B.R. James, D.R. Paulson and C. Welborn, "Heme Proteins and Metalloporphyrins: Redox Chemistry and Oxygen Binding", *The International Journal of Quantum Chemistry*, **16**, 311-329 (1979).
21. A.W. Addison\*, C.P. Landee, R.D. Willett\* and M. Wicholas\*, "Superexchange Interactions in Some Binuclear Complexes of Copper(II) With Single Axial Bridging", *Inorganic Chemistry*, **19**, 1921-1923 (1980).
22. E.W. Ainscough\*, A.M. Brodie, J.E. Plowman, K.L. Brown, A.W. Addison and A.R. Gainsford, "Small Molecule Analogues for the Specific Iron-Binding Site of Lactoferrin: A Single Crystal X-ray Structure of Bis(methanol)bis[2-(5-methylpyrazol-3-yl)phenolato]iron(III) Nitrate Methanol and Spectroscopic Studies on Iron(II)-Phenolate Complexes", *Inorganic Chemistry*, **19**, 3655-3663 (1980).
23. A.W. Addison, H. Henriks, J. Reedijk and L.K. Thompson\*, "Copper Complexes of the 'Tripod' Ligand Tris(2-benzimidazolymethyl)amine: Five- and Six-coordinate Copper(II) Derivatives and Some Copper(I) Derivatives", *Inorganic Chemistry*, **20**, 103-110 (1981).
24. M.A. Augustin, J.K. Yandell\*, A.W. Addison and K.D. Karlin, "Rates of Electron Transfer and Redox Potentials of Some Copper(II) Thioether Complexes", *Inorganica Chimica Acta, Bioinorganic Chemistry*, **55**(B2), L35-L37 (1981).
25. A.W. Addison\* and P.J. Burke, "Synthesis of Some Imidazole- and Pyrazole-Derived Chelating Agents", *The Journal of Heterocyclic Chemistry*, **18**, 803-805 (1981).
26. A.W. Addison\*, P.J. Burke and K. Henrick, "Crystal and Molecular Structure of Dipolar Spin-Coupled Dimers of an Irregularly Pentacoordinate Copper(II) Complex, [Cu(5-Melin)(DBM)]", *Inorganic Chemistry*, **21**, 60-63 (1982).
27. A.W. Addison\* and P.L. Dougherty, "The Coelomic Hemerythrin of *Siphonosoma cumanense*", *Comparative Biochemistry & Physiology*, **72B**, 433-438 (1982)
28. A.W. Addison\* and E. Sinn, "A Stable Bis-Thiolate of Copper(II) With Long Axial Copper-Sulfur Linkages: Crystal and Molecular Structure of trans-[Cu(Cyclam)(SC<sub>6</sub>F<sub>5</sub>)<sub>2</sub>]", *Inorganic Chemistry*, **22**, 1225-1228 (1983).

29. J.L. Smith, W.A. Hendrickson\* and A.W. Addison, "Structure of Trimeric Hæmerythrin", *Nature (London)*, **303** (5912), 86-88 (1983).
30. A.W. Addison\*, P.J. Burke, K. Henrick, T.N. Rao and E. Sinn, "Copper Complexes of Nitrogen-Sulfur Donors: Structural Chemistry of Two Complexes of Bis(2-benzimidazolethyl)sulfide With the Sulfur Alternatively in Equatorial and Axial Coordination Modes", *Inorganic Chemistry*, **22**, 3645-3653 (1983).
31. A.W. Addison\*, T.N. Rao and C.G. Wahlgren, "Syntheses of Some Benzimidazole- and Benzothiazole-Derived Ligand Systems and Their Precursory Diacids", *The Journal of Heterocyclic Chemistry*, **20**, 1481-1484 (1983).
32. A.W. Addison\*, B. Watts and M. Wicholas\*, "Adduct Formation and Electrochemistry of a Unipositive Nickel(II) Macrocyclic, [Ni(Cyclops)]<sup>+</sup>", *Inorganic Chemistry*, **23**, 813-816 (1984).
33. A.W. Addison\*, T.N. Rao, J. Reedijk\*, J. van Rijn and G.C. Verschoor, "Synthesis, Structure and Spectroscopic Properties of Copper(II) Compounds Containing Nitrogen-Sulphur Donor Ligands; the Crystal and Molecular Structure of Aqua[1,7-bis(*N*-methylbenzimidazol-2-yl)-2,6-dithiaheptane]-copper(II) Perchlorate", *The Journal of the Chemical Society, Dalton Transactions*, 1349-1356 (1984).
34. A.W. Addison\*, T.N. Rao and E. Sinn, "Spectroscopy and Structure of Thiolate and Thioether Complexes of Copper(II), and the Relationship of Their Redox Properties to Certain Copper Proteins", *Inorganic Chemistry*, **23**, 1957-1967 (1984).
35. A.W. Addison\* and S. Burman, "Ligand-Dependent Redox Chemistry of *Glycera dibranchiata* Hemoglobin", *Biochimica et Biophysica Acta*, **828**, 362-368 (1985).
36. A.W. Addison\* and J.J. Stephanos, "Nitrosyliron(III) Hemoglobin: Autoreduction and Spectroscopy", *Biochemistry*, **25**, 4104-4113 (1986).
37. T.C. Woon, R. McDonald, S.K. Mandal, L.K. Thompson\*, S.P. Connors and A.W. Addison, "Copper Coordination Chemistry of some Tetradentate Pyridazine and Phthalazine (N<sub>4</sub>) Thioether Ligands. Binuclear Copper(II) Complexes Exhibiting Sequential Two-Electron Reduction at Positive Potentials", *The Journal of the Chemical Society, Dalton Transactions*, 2381-2386 (1986).
38. L.K. Thompson\*, S.K. Mandal, E.J. Gabe, F.L. Lee and A.W. Addison, "Structure and Electrochemical Properties of Antiferromagnetically Coupled Binuclear Hydroxo-Bridged Copper(II) Complexes with Pyridine and Phthalazine Ligands. Crystal and Molecular Structures of  $\mu$ -[3,6-bis(1-pyrazolyl)pyridazine-*N*, $\mu$ -N<sup>3</sup>, $\mu$ -N<sup>4</sup>,*N*]- $\mu$ -hydroxotrichloroaquadicopper(II) 0.8 hydrate, Cu<sub>2</sub>C<sub>10</sub>H<sub>11</sub>Cl<sub>3</sub>N<sub>6</sub>O<sub>2</sub>·0.8H<sub>2</sub>O,  $\mu$ -[3,6-bis(1-pyrazolyl)pyridazine-*N*, $\mu$ -N<sup>3</sup>, $\mu$ -N<sup>4</sup>,*N*]- $\mu$ -hydroxotribromoaquadicopper(II) 0.6 hydrate, Cu<sub>2</sub>C<sub>10</sub>H<sub>11</sub>Br<sub>3</sub>N<sub>6</sub>O<sub>2</sub>·0.6H<sub>2</sub>O, and  $\mu$ -[1,4-bis(1-methylimidazol-2-yl)phthalazine]- $\mu$ -hydroxotribromo-aquadicopper(II) hydrate, Cu<sub>2</sub>C<sub>16</sub>H<sub>19</sub>Br<sub>3</sub>N<sub>6</sub>O<sub>2</sub>", *Inorganic Chemistry*, **26**, 657-664 (1987).
39. A.W. Addison\*, S. Burman, C. G. Wahlgren, O. A. Rajan, T. M. Rowe and E. Sinn\*, "New Iron(II) Spin Crossover Complexes with Heterocyclic Amine-Derived Ligands and STEPS Experiments on Photo-generated Metastable High-Spin States", *The Journal of the Chemical Society, Dalton Transactions*, 2621-2630 (1987).
40. S.B. Sanni, H.J. Behm, P.T. Beurskens, G.A. van Albada, J. Reedijk\*, A.T.H. Lenstra, A.W. Addison and M. Palaniandavar, "Copper(II) and Zinc(II) Coordination Compounds of Tridentate Bis(benzimidazole)-pyridine Ligands. Crystal and Molecular Structures of Bis(2,6-bis-(*N*-methylbenzimidazol-2-yl)-pyridine)-copper(II) Bis(perchlorate) Monohydrate and (Acetonitrile)-(2,6-bis-

(benzimidazol-2-yl)-pyridine)per-chloratocopper(II) Perchlorate)", *The Journal of the Chemical Society, Dalton Transactions*, 1429-1435 (1988).

41. A.W. Addison\* and J.J. Stephanos, "Spin- and Other Equilibria of Monomeric Heme Proteins", *Receuil des Travaux de Chimie Pays-Bas*, **106**, 324 (1987).

42. A.W. Addison\*, M. Palaniandavar, W.L. Driessen\*, F. Paap and J. Reedijk, "Copper Complexes of Some Tetradentate Pyrazolyl Amines", *Inorganica Chimica Acta*, **142**, 95-100 (1988).

43. A.W. Addison\* and C.G. Wahlgren, "Some Iron(III) Complexes with Polydentate Schiff Base Ligands", *Inorganica Chimica Acta*, **147**, 61-64 (1988).

44. R.J. Butcher & A.W. Addison\*, "Structural Aspects of the Bis(2,2'-dipicolylamine)iron(II) Cation", *Inorganica Chimica Acta*, **158**, 211-215 (1989).

45. T.J. DiFeo and A.W. Addison\*, "Hæm Cotton Effects of *Glycera dibranchiata* Monomeric Hæmoglobin and Equine Myoglobin Reconstituted with Synthetic and Natural Iron Porphyrins", *The Biochemical Journal*, **260**, 863-871 (1989).

46. C.G. Wahlgren and A.W. Addison\*, "Synthesis of Some Benzimidazole-, Pyridine- and Imidazole-Derived Chelating Agents", *The Journal of Heterocyclic Chemistry*, **26**, 541-543 (1989).

47. A.W. Addison, "Is Ligand Topology A Structural Influence on the Redox Potentials of Copper Complexes ?", *Inorganica Chimica Acta*, **162**, 217-220 (1989).

48. C.G. Wahlgren, A.W. Addison\*, S. Burman, L.K. Thompson, E. Sinn and T. M. Rowe, "Oxo-Bridged Complexes of Iron(III) Derived from 2-(2'-Hydroxyphenyl)benzothiazole and 2-(2'-Hydroxyphenyl)-benzimidazole Ligands", *Inorganica Chimica Acta*, **166**, 59-69 (1989).

49. J.J. Stephanos and A.W. Addison\*, "Spectroscopic and Kinetic Aspects of *Elephas maximus* Hemoglobin", *The European Journal of Biochemistry*, **189**, 125-130 (1990).

50. S. Nagy\*, A.W. Addison, C.M. Rosenthal, E. Kuzmann, K. Süveg and A. Vértés, "Multinomial Distribution as the Most Likely Distribution of the Stoichiometric Composition of Stochastically formed n-Mers", *Journal of Radioanalytical & Nuclear Chemistry*, **141**, 373-391 (1990).

51. J.J. Stephanos and A.W. Addison\*, "Thermochromism of Heme Adducts of *Glycera* Hemoglobin and Some other Monomeric Heme Proteins", *The Journal of Inorganic Biochemistry*, **39**, 351-369 (1990).

52. M.R. McDevitt, A.W. Addison\*, E. Sinn\* & L.K. Thompson, "Analogues for the Specific Iron-Binding Site of Transferrin: Structure of a Ternary Complex and Spectroscopic and Reactivity Properties of Related Model Compounds", *Inorganic Chemistry*, **29**, 3425-3433 (1990).

53. T.J. DiFeo & A.W. Addison\*, "Kinetic and Spectroscopic Studies of Hæmoglobin and Myoglobin from the Echiuran *Urechis caupo* - Distal Residue Effects", *The Biochemical Journal*, **269**, 739-747 (1990).

54. T.J. DiFeo and A.W. Addison\*, "Chiroptical and Physicochemical Properties of the Extracellular Hemoglobin from *Cirriformia tentaculata*", *Comparative Biochemistry & Physiology*, **97B**, 391-399 (1990).

55. T.J. DiFeo & A.W. Addison\*, "Heme Rotational Isomerism is Not Required for the Production of Q-Band Splitting in the Spectra of Iron-Porphyrin Proteins", *Inorganic Chemistry*, **30**, 1151-1153 (1991).

56. S. Rüttimann, C. M. Moreau, A.F. Williams\*, G. Bernardinelli and A.W. Addison, "Complexes of Structural Analogues of Terpyridyl with Iron and Zinc; the X-Ray Crystal Structure of Bis(2,6-bis(benzimidazol-2'-yl)pyridine)iron(II) Trifluoromethanesulphonate Bis-Ethanol Solvate", *Polyhedron*, **11**, 635-646 (1992).
57. R.P.F. Kanthers, R. Yu & A.W. Addison\*, "Some High-Potential Trithioether Chelates of Copper", *Inorganica Chimica Acta*, **196**, 97-102 (1992).
58. R. P. F. Kanthers\*, B. W. Char & A. W. Addison, "A Computer Algebra Application for the Description of NMR Experiments using the Product Operator Formalism", *Journal of Magnetic Resonance*, **A101**, 23-29, (1993).
59. M.R. McDevitt, R. Yu & A.W. Addison\*, "Ruthenium(II) Complexes with Some Phenanthroline-, Benzimidazole-, Benzothiazole- and Pyridine-Derived Bidentate and Tridentate Ligands: Reactivity and Spectroscopic and Electrochemical Characterization", *Transition Metal Chemistry*, **18**, 197-204, (1993).
60. M.R. McDevitt & A.W. Addison\*, "Medium Effects on the Redox Chemistry of Tris(2,2'-bipyridyl)-ruthenium Complexes", *Inorganica Chimica Acta*, **204**, 141-146 (1993).
61. V. V. Pavlishchuk & A. W. Addison\*, "Synthesis, Spectroscopic and Redox Behaviour of Copper(II) Complexes with Quinquedentate Thiaaza Ligands", *Inorganica Chimica Acta*, **203**, 29-35 (1993).
62. X. Xiaoming, M-a. Haga\*, T. Matsumura-Inoue, Y. Ru, A. W. Addison\* & K. Kano, "Synthesis and Proton Transfer Linked Redox Tuning of Ruthenium(II) Complexes with Tridentate 2,6-Bis(benzimidazol-2'-yl)pyridine Ligands.", *Journal of the Chemical Society, Dalton Transactions*, 2477-2484 (1993).
63. V. V. Pavlishchuk, A. W. Addison\*, R. J. Butcher & R. P. F. Kanthers, "A Nickel Dithiadioxime Derived Macrocyclic", *Inorganic Chemistry*, **33**, 397-399 (1994).
64. K. K. Nanda, A. W. Addison\* & E. Sinn, "The First Oxovanadium(V) Thiolate Complex, [VO(SCH<sub>2</sub>CH<sub>2</sub>)<sub>3</sub>N]", *Inorganic Chemistry*, **35**, 1-2 (1996) (Communication to the Editor).
65. M. Palaniandavar, R. J. Butcher and A. W. Addison\*, "Dipicolylamine Complexes: Two Different Copper Coordination Geometries in the Same Unit Cell: Bis(dipicolylamine)copper(II) Tetrafluoroborate." *Inorganic Chemistry*, **35**, 467-471 (1996).
66. J. J. Stephanos, S. A. Farina & A. W. Addison\*, "Iron Ligand Recognition by Monomeric Hemoglobins." *Biochimica et Biophysica Acta*, **1295**, 209-221 (1996).
67. K. K. Nanda, A. W. Addison\*, E. Sinn & L. K. Thompson, "Helical Antiferromagnetic Copper(II) Chains with a Collagen Structural Motif", *Inorganic Chemistry*, **35**, 5966-7 (1996) (Communication to the Editor).
68. A. W. Addison, "Electron-Counting Rules for Transition Metal- Nitric Oxide Complexes", *Journal of Chemical Education*, **74**, 1354-1356, (1997).
69. J. J. Stephanos, S. A. Farina & A. W. Addison\*, "Triangular Kinetic Schemes Applied to the Stability of a Heme-Globin Complex." *The Journal of Inorganic Biochemistry*, **66**, 83-98, (1997).
70. K. K. Nanda, A. W. Addison\*, R. J. Butcher, M. R. McDevitt, T. N. Rao and E. Sinn, "Structural Demonstration of The Role of Ligand Framework Conformability in Copper(II)/ Copper(I) Redox Potentials." *Inorganic Chemistry*, **36**, 134-135 (1997) (Communication to the Editor).

71. K. K. Nanda, A. W. Addison\*, N. Paterson, E. Sinn, L. K. Thompson and U. Sakaguchi, "Copper(II) and Nickel(II) Complexes of Anionic Dinucleating Macrocycles." *Inorganic Chemistry*, **37**, 1028-1036 (1998).
72. V. V. Pavlishchuk, S. V. Kolotilov, E. Sinn, M. J. Prushan and A. W. Addison, "The 1,8-Bis(2'-pyridyl)-3,6-dithiaoctane complex of nickel(II): X-ray crystal structure and borohydride adduct formation", *Inorganica Chimica Acta*, **278**, 217-222 (1998).
73. V. V. Pavlishchuk\*, S. V. Kolotilov, A. W. Addison\*, M. J. Prushan, R. J. Butcher and L. K. Thompson, "Mono- and Trinuclear Nickel(II) Complexes with Sulfur-Containing Oxime Ligands: Uncommon Templated Coupling of Oxime with Nitrile", *Inorganic Chemistry*, **38**, 1759-1766 (1999).
74. J. J. Stephanos\*, L. M. Jackson & A. W. Addison, "Copper(II) Schiff-Base Complexes and Apoglobin Stability", *The Journal of Inorganic Biochemistry*, **73**, 137-144 (1999).
75. V. V. Pavlishchuk and A. W. Addison, "Conversion Constants for Redox Potentials Measured vs. Different Reference Electrodes in Acetonitrile Solutions at 25 °C", *Inorganica Chimica Acta*, **298**, 97-102 (Feb. 2000).
76. V. V. Pavlishchuk\*, S. V. Kolotilov, A. W. Addison\*, R. J. Butcher and E. Sinn, "Nickel(II) complexes with dithiadiminoamine and dithiabis(thiosemicarbazone) ligands." *Journal of the Chemical Society, Dalton Transactions*, 335-341 (2000).
77. V. V. Pavlishchuk\*, S. V. Kolotilov, A. W. Addison, E. Sinn & M. J. Prushan, "Nickel(II), Nickel(I) and Nickel(0) Complexes with 1,8-Bis(2'-pyridyl)-3,6-dithiaoctane", *Russian Journal of Inorganic Chemistry* **45**(2), 544-550 (2000).
78. M. J. Prushan, A. W. Addison\* and R. J. Butcher, "Pentadentate Thioether Oxime Macrocyclic and Quasi-Macrocyclic Complexes of Copper(II) and Nickel(II)", *Inorganica Chimica Acta*, **300-302**, 992-1003 (April 2000).
79. V. V. Pavlishchuk\*, I. A. Koval, E. Goreshnik, A. W. Addison\*, G. A. van Albada and J. Reedijk, "The First Example of a True "Turnbull's Blue" Family Compound with Trapped Iron Oxidation States", *The European Journal of Inorganic Chemistry*, 297-301 (Jan. 2001).
80. J. G. Gilbert, A. W. Addison\* & R. J. Butcher, "Some Nickel(II) Complexes with Pentadentate and Tridentate Heterocyclic N- and S-Donor Ligands", *Inorganica Chimica Acta*, **308**, 22-30 (Oct. 2000).
81. V.V. Pavlishchuk, S.V. Kolotilov, A.W. Addison, M.J. Prushan, R.J. Butcher & E. Sinn, Modeling of the Ni-Fe-center of Ni-CO-dehydrogenase by nickel complexes with thiazaligands", *Ukr. Biokhim. Zh.*, **73** (2001) 91-100.
82. S. Cheng, S. Li, A. W. Addison, F. Papadimitrakopoulos, B. R. Hsieh and Y. Wei\*, "Synthesis And Characterization Of Aniline Derivatives of Modified 8-Hydroxylquinoline Ligands And Their Metal Complexes", *Polymer and Materials Science and Engineering*, **83**, 274-275 (2000).
83. V. V. Pavlishchuk\*, S. V. Kolotilov, A. W. Addison\*, M. J. Prushan, D. Schollmeyer, L. K. Thompson and E. A. Goreshnik, "A Tetrameric Nickel(II) "Chair" with both Antiferromagnetic Internal Coupling and Ferromagnetic Spin Alignment." *Angewandte Chemie, International Edition*, **40**, 4734-4737 (Dec. 2001).
84. J. G. Gilbert, A. W. Addison\*, A. Y. Nazarenko and R. J. Butcher, "Copper(II) complexes of new unsymmetrical NSN thioether ligands", *Inorganica Chimica Acta*, **324**, 123-130 (Nov. 2001).
85. J. G. Gilbert, A. W. Addison\*, M. Palaniandavar and R. J. Butcher, "Synthesis of Some Benzimidazole-, Benzothiazole- and Pyridine- Derived Chelating Agents." *The Journal of Heterocyclic Chemistry*, **39**, 399-404 (April 2002).

86. S. Ghosh, K. K. Nanda, A. W. Addison\* and R. J. Butcher, "Mononuclear and Mixed-valence Binuclear Oxovanadium Complexes with Benzimidazole-derived Chelating Agents", *Inorganic Chemistry*, **40**(8), 2243-2249 (April 2002) [Web-published 2002/03/23]
87. V. V. Pavlishchuk\*, S. V. Kolotilov, A. W. Addison, M. J. Prushan, R. J. Butcher and L. K. Thompson, "A new class of macrocyclic complexes formed via nickel-promoted macrocyclisation of dioxime with dinitrile." *Journal of the Chemical Society, Chemical Communications* (2002) 468-469.
88. K. S. Gavrilenko, A. Vértés, G. Vanko, L. F. Kiss, A. W. Addison, T. Weyh rm ller & V. V. Pavlishchuk\*, "Synthesis, magnetochemistry and spectroscopy of heterometallic trinuclear basic trifluoroacetates  $[\text{Fe}_2\text{M}(\mu^3\text{-O})(\text{CF}_3\text{COO})_6(\text{H}_2\text{O})_3] \cdot \text{H}_2\text{O}$  (M = Mn, Co, Ni)", *European Journal of Inorganic Chemistry*, (Nov. 2002) 3347-3355.
89. V. V. Pavlishchuk\*, S. V. Kolotilov, A. W. Addison, M. J. Prushan, D. Schollmeyer, L. K. Thompson, T. Weyh rm ller and E. A. Goreschnik, "Structural, magnetic and related attributes of some tetranuclear nickel rhombs and a dinuclear congener." *Dalton Transactions* (2003) 1587-1595.
90. G. Wu, X. Shi, Q. Fang, G. Tian, L. Wang, G. Zhu\*, A. W. Addison, Y. Wei, and S Qiu\*, "Triethylammonium benzene-1,3,5-tricarboxylato(pyridine)zinc(II): a two-dimensional undulating mesh network", *Inorganic Chemistry Communications*, **6**, (2003) 402-404. (Published online 7 January 2003.)

#### **D: Other Publications & Reports:**

1. A.W. Addison, "3-Alkylacetylacetonate Complexes of Nickel(II)", Honours B.Sc. thesis, 1967, 74p.
2. A. W. Addison, "Rhodium(III) Chemistry: A Synthetical and Spectroscopic Study", Ph.D. thesis, 1970, 200p, appendices.
3. A. W. Addison, W. R. Cullen, D. H. Dolphin and B. R. James, Editors, "Biological Aspects of Inorganic Chemistry." (Book) Wiley-Interscience, 1977, 410p.
4. B. R. James\*, A. W. Addison, M. Cairns, D. Dolphin, N. P. Farrell, D. R. Paulson and S. Walker, "Progress in Dioxygen Complexes of Metalloporphyrins". In *Fundamental Research in Homogeneous Catalysis*, Vol. 3, M. Tsutsui., Ed., Plenum Press, 1979, pp. 751-772
5. A.W. Addison, J.P. Barnier, V. Gujral, Y. Hoyano, S. Huizinga and L. Weiler\*, "The Design of New Organic Electron Acceptors". In "Molecular Metals", Ed. W.E. Hatfield, Plenum Press, New York, 1979 pp. 15-21.
6. A.W. Addison, "Spectroscopic and Redox Trends From Model Systems", in "Copper Coordination Chemistry: Biochemical and Inorganic Perspectives", Eds. K.D. Karlin & J.A. Zubieta, Adenine Press, Guilderland, NY, 1983, pp109-128.
7. A.W. Addison\* and J.J. Stephanos, "Nitrosyliron(III) Hemoglobin: Autoreduction and Spectroscopy", *Revista Portuguesa de Qu mica*, **27**, 201-203 (1985).
8. A.W. Addison: North Atlantic Treaty Organization Research Report: "Synthesis, Structure, Spectroscopy and Electrochemistry of Copper Chelates with Benzimidazole-Thioether Ligands", August 1987.
9. A.W. Addison, J. Cunningham, I.L. Kamel & D. Kitinoja, "Progress Summary: Surface Modification of IOLs", March 1989 (proprietary document).
10. A.W. Addison, J. Cunningham, I.L. Kamel, D. Kitinoja & D. Jaron, "Progress Report: Preparation of Improved Intraocular Lens Materials", July 1989 (proprietary document)..

11. A.W. Addison\*, L.L. Borer & E. Sinn, "Small Molecule Models of Copper(II) Proteins, Especially those Involving Copper-Sulfur Bonding", in *Metallothioneins - Synthesis, Structure and Properties of Metallothioneins, Phytochelators and Metal-Thiolate Complexes*, Eds. M. J. Stillman, C. F. Shaw III & K. T. Suzuki, VCH Publishers Inc., pp. 387-407, 1992.

12. R. M. Giuliano & A. W. Addison, "The 30th ACS Middle Atlantic Regional Meeting", *Chemical & Engineering News* **74**, 36-42 (1996).

**In Draft:**

- U. Varadharajan, R. P. F. Kanter, J. P. Jasinski, R. J. Butcher & A. W. Addison\*, "Properties of some Ruthenium and Osmium Bis(benzimidazolyl)pyridine Chelates, Including their Voltammetry at Cylindrical Electrodes and the Molecular Structures of a Ligand and an Osmium(II) Complex."

- M. J. Prushan, A. W. Addison, S.V. Kolutolov, V.V. Pavlishchuk & R.J. Butcher, "Mononuclear Nickel(II) Thioether-oxime Complexes and their Interconversion between the Monomer and Trimer Forms"

- J. G. Gilbert, M. Vaidyanathan, A. W. Addison\* & R. J. Butcher, "Aqua{2,6-bis([2'-aminophenylthio]-methyl)pyridine}nickel(II) Bis(perchlorate)".